


III. Alternative Analysis - continued			
<p>8 Land application or infiltration or disposal via an Underground Injection Control Well (Discuss the potential of utilizing a spray field or an Underground Injection Control Well for shallow or deep well disposal. Compare the feasibility and costs of such treatment techniques with the feasibility and costs of proposed treatment system.)</p> <p>Onsite and subsurface disposal options are not feasible alternatives. The installation of a sanitary septic system, (i.e. septic tank) was evaluated but is not an applicable option. Building a system large enough to handle the volume of water would be impractical. The typical septic tank will only hold 1,000 gallons. This project could produce up to 164,014 gallons per minute during peak discharge for a 10yr/24 hr storm event. With this anticipation, it would require well over 164 septic systems with drain fields up to an acre for each event. This site will not have adequate useable space that this number of systems could be placed. Septic systems are designed to digest organic waste and biodegradable material over time by anaerobic digestion. While the source water would most likely contribute some organic material and some needed bacteria, this would be inadequate to decompose the sediment and would work essentially the same as a sediment structure. Also, the possibility of drilling an injection well (to inject the discharges underground) depending on depth could cost up to \$50,000 per well. Injecting this discharge underground would increase the potential of an outcrop blowout from an old unknown adit and would require a UIC permit. A suitable place to inject, within 0.5 miles of this project has not been located. In addition to potential safety impacts associated with the subsurface disposal, this alternative would reduce the quantity of water available to support downstream aquatic communities. There are no known underlying abandoned underground works in the area to receive such discharges if this was a viable option.</p>			
<p>9 Discharge to other treatment systems (Discuss the availability of either public or private treatments systems with sufficient hydrologic capacity and sophistication to treat the wastewaters generated by this project. Compare the feasibility and costs of such options with the feasibility and costs of the proposed treatment system.)</p> <p>It would take approximately \$6.4 million (95,310 feet of 24" HDPE pipe at \$67/ft.) to run 24" HDPE pipe to the nearest downstream municipal water treatment plant, which is the Williamsburg Waste Water Treatment Plant in Williamsburg, Kentucky. The Williamsburg treatment plant would then require a sedimentation basin to remove the silt before allowing the water to enter the plant.</p> <p>Trucking would need to be available for the potential 10yr/24hr storm event. The run-off from the mine site was determined by a SEDCAD 4 watershed analysis to be 42.91 acre-feet. This equates to 13,982,266 gallons of waste water in the 24 hour storm event. Assuming the use of 6000 gallon capacity tanker trucks for hauling, the trucking of this volume of water would require 2,331 tanker truck loads to remove this volume of water in a 24 hour period. It is estimated that the time to pump into the tanker, round trip haul and unloading time at the waste water plant is at a minimum of 4 hours. It would require 389 trucks with a capacity of 6,000 gallons each working 24 hours aday, to haul the discharge to the treatment plant. The trucks would cost approximately \$89.5 million (\$230,000 per truck), and the maintenance and diesel would cost over \$291,936 per day (\$106,556,640 for year) for an annual cost of \$196,056,640.</p>			
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